8. FEA/FCA Menu



This section contains information on the commands available on the FEA/FCA menu. FEA/FCA stands for Flow Evaluation Area/Flow Constrained Area. This function allows you to produce graphic overlays showing areas where flight rerouting may be necessary. The following commands are currently available:

• Show/Hide FEA/FCAs

Lets you display or hide all FEA/FCAs selected in the Current FEA/FCAs dialog box.

• Select FEA/FCAs

Lets you select which FEA/FCAs you want to display.

• Create FEA

Lets you create a new FEA and designate it Private or Shared.

Edit FEA

Lets you edit an FEA definition. FCAs can be edited only by Command Center users.

• Examine FEA/FCA

Displays a time line that shows traffic demand for an FEA/FCA.

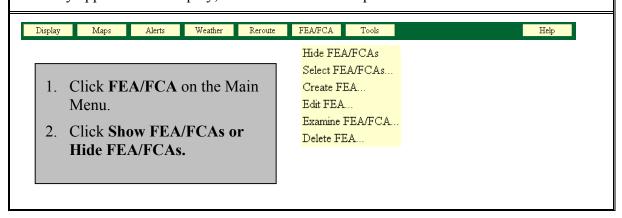
• Delete FEA

Lets you remove a current FEA from the database. FCAs can be deleted only by Command Center users.

FEA/FCA Menu Show/Hide FEA/FCAs

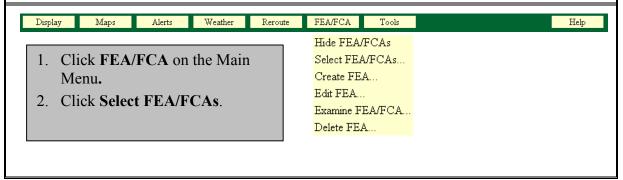
Show/Hide FEA/FCAs

The **Show/Hide FEA/FCAs** command lets you toggle the display of FEA/FCAs. If you issue the Show FEA/FCA command, then all of the FEA/FCAs that are selected in the Select FEA/FCA dialog box will be drawn on the display. If you issue the Hide FEA/FCA, no FEA/FCAs will be drawn on the display. Either Show or Hide FEA/FCAs appears on the FEA/FCA menu, depending on the status of the display. That is, if FEA/FCA polygons currently appear on the display, the FEA/FCA menu option will read Hide FEA/FCAs.





The **Select FCAs** command lets you specify which FCAs you want to display. Only Public FCAs created by the Command Center are available for display.



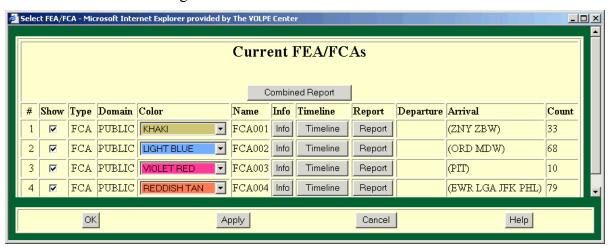
Select FEA/FCA Dialog Box

The Select FEA/FCA dialog box allows you to select from

- All public FCAs or FEAs created by the FAA Command Center
- Any shared FEAs created by another CCSD user
- Any shared FEAs created by the FAA and designated for viewing on the CCSD
- Any private FEAs created by your facility

Note: FEAs and FCAs will be automatically dropped from the Select FEA/FCA dialog box 30 minutes after the end time unless they are created from your facility.

After you click **Select FEA/FCAs**, the Select FEA/FCAs dialog box appears, looking somewhat like the following:



To display an FCA,

1. Click in the **Show** check box on the line of the FEA/FCA you select to display. You can select more than one FEA/FCA to display.

The **Type** and **Domain** entries were made when the FEA/FCA was created. These fields cannot be edited.

2. If you want to change the color that the FEA/FCA is displayed in, click **Color** and select a color from the drop-down list.

The **Name** was entered when the FEA/FCA was created and cannot be edited. The **Departure** and **Arrival** columns display any constraining conditions for flights that are part of the FEA/FCA.

Three conditions for the Departure and Arrival columns are listed below:

- Flights that *must* depart from or arrive at the listed airport
- Flights that *must not* depart from or arrive at the listed airport
- Flights that may depart from or arrive at any airport (blank entry)

On the CCSD display, the **Count** column is filtered to display the total number of flights for the airline of the user.

3. Click **OK** or **Apply**.

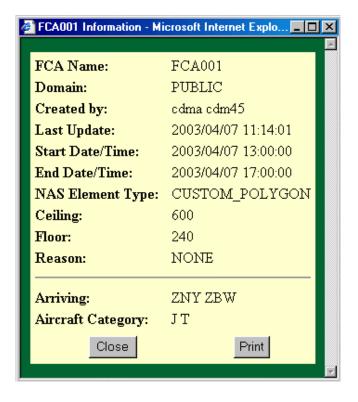
The resulting display could look like the following sample.



The Info, Timeline, Report and Combined Report buttons are described on the following pages.

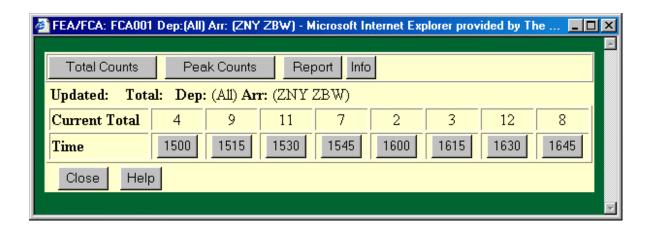
Info (FEA/FCA Information) Button

Click the **Info button** to display the data that was specified when the FEA/FCA was created.



Timeline Button

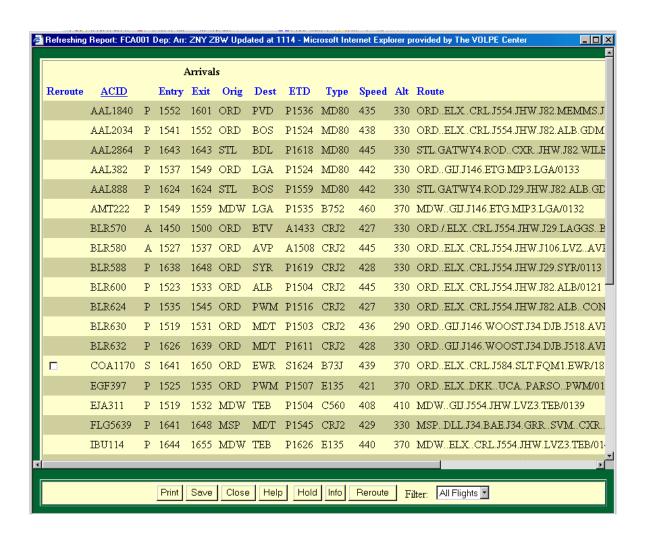
The Timeline button brings up the FEA/FCA Timeline. The Timeline functionality is described in detail in the Examine FEA/FCA section of this chapter.



Report Button

The **FEA/FCA Report** lists the flights predicted to intersect the selected FEA/FCA, and it shows detailed data on each flight.

The following is an example of the report:

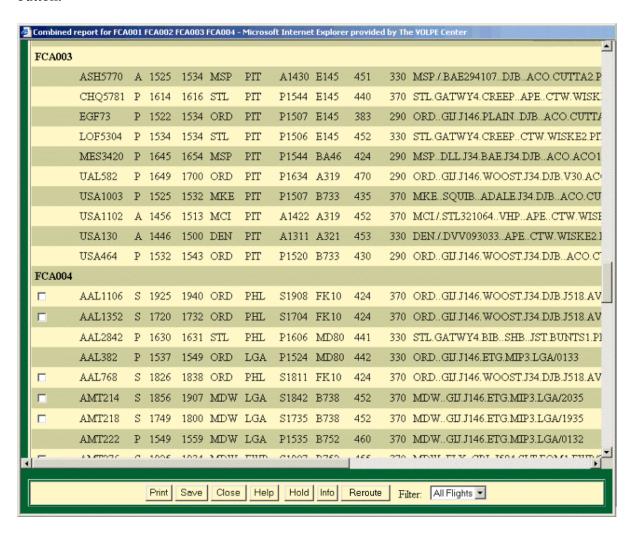


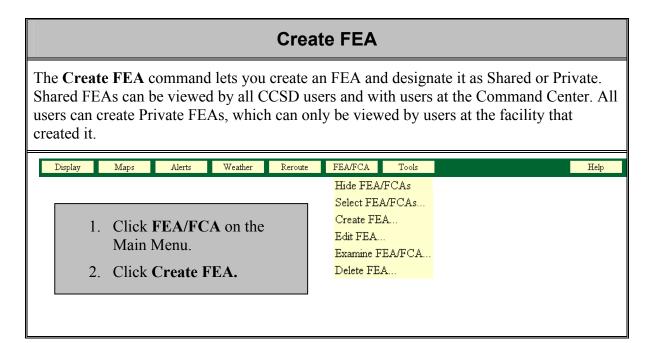
You can sort the report by any of the column headings. By default, the report is sorted by ACID.

The FEA/FCA Report is fully described in the Examine FEA/FCAs section of this chapter.

Combined Report Button

The Combined Report button lists all of the flights predicted to intersect the FEA/FCAs selected in the Select FEA/FCAs dialog box. For example, the report below shows the flights for two FCAs. To generate a combined report for these two FCAs, you would have to check their Show buttons in the Select FEA/FCA dialog box before clicking the Combined Report button.



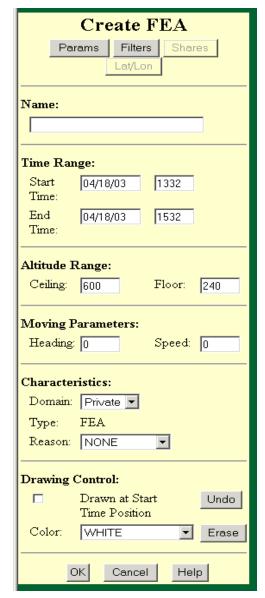


Note: Only the FAA Command Center can create a public FEA or FCA.

Flow Evaluation Areas (FEA)

The Create FEA command allows you to create a Flow Evaluation Area, or FEA. An FEA is a region of airspace that has been designated as one of interest by the user. For example, an FEA could reflect an area where storm activity is projected or an area around an arrival fix. An FEA is defined by a geographic area, created as a "point-and-click" polygon, as well as filtering criteria such as altitude limits, airline, or aircraft type. Once an FEA is defined, the user can see data for the flights that intersect the defined area and meet all the filtering criteria. For example, if Northwest Airlines is anticipating a thunderstorm near Detroit, they could create an FEA to view the NWA flights that depart from DTW and that intersect the projected area.

After you select Create FEA, the following dialog box appears, with the Params tab selected.



Two tabs are available on the Create FEA dialog box:

- 1. Params (parameters)
- 2. Filters

Note: There are two grayed-out tabs, Shared and Lat/Lon, which are not currently available.

Parameters Tab

The following table explains how to use the fields in the Params tab of the Create FEA dialog box.

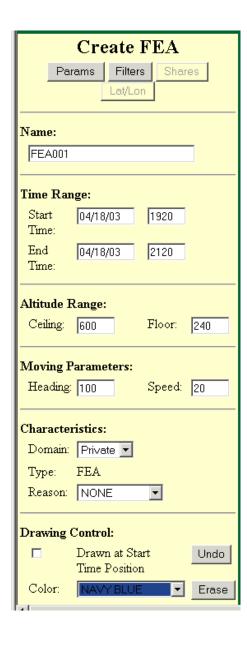
Params Tab

	Params 1a	U			
Item	Description	What you do			
Name	User-specified name (alphanumeric and underscore characters only) for the FEA. Maximum of 30 characters.	Click in the text entry field and enter a name. Private or Shared FEAs cannot start with FCA.			
	Time Range				
Start Time	Initially filled in with the current date and time. The Start date is formatted mm/dd/yy. The start time is formatted as hhmm.	Place the pointer in the year, month, day, hours, or minutes value. Type in the date or time values.			
End Time	Initially filled in with the start time plus two hours. The end date is formatted mm/dd/yy. The end time is formatted as hhmm.	Place the pointer in the year, month, day, hours, or minutes value and type in the date or time values.			
	Altitude Range				
Ceiling	This field is initially filled in with the default value for Ceiling.	Click in the Ceiling box and enter a one to three-digit number.			
Floor	This field is initially filled in with the default value for Floor.	Click in the Floor box and enter a one to three-digit number.			
	Moving Paramete	ers			
Heading	This field is initially set to zero. You can enter 1-3 digit values from 000 to 359 degrees. You need to enter data in this field if you want to see a moving FEA. Note that 000 = north.	Click in the Heading box and enter a one to three-digit number. See Moving Parameters Field, following this table.			
Speed	This field is initially set to zero. You can enter 1-2 digit values from 00 to 99 knots. Enter a value at zero in this field if you want to create a stationary FEA. Enter some number greater than zero in this field if you want to create a moving FEA.	Click in the Speed box and enter a one to three-digit number.			

Characteristics						
Domain	This field lets you decide if the FEA/FCA is to be Private or Shared. If the FEA/FCA is Private, it can be viewed only at the specific facility where it was created. If the FEA/FCA is Shared, it can be viewed by any WSD/CCSD user and by the Command Center.	Click in the Domain field or its arrow. In the resulting pull-down menu select the domain you want by clicking it.				
Туре	For a WSD/CCSD user, the only allowed type is FEA. A WSD/CCSD user is not allowed to create an FCA.	This field cannot be edited.				
Reason	The reason that the FEA was created.	Click in the field or its arrow for a pull-down list of pre-defined reasons and select the appropriate reason.				
	Drawing Control					
Drawn at Start Time Position	This check box lets you specify whether you have drawn the FEA at the position associated with the current time or the position associated with the start time you entered in the Create FEA dialog box.	Leave unchecked if you have drawn the FEA at its current position. Check if you have drawn the FEA where you project it will be located at the FEA start time. This check box only matters if you are creating a moving FEA; it is irrelevant if you are creating a stationary FEA.				
Color	Lets you determine the color of each FEA.	Click the button to display a color palette. Click a color that you want for the FEA.				
Erase	Lets you delete the FEA polygon you just created.	Click Erase to delete the FEA polygon you just created.				
Undo	Lets you delete the last point of the polygon you are drawing.	Click Undo to delete the last point of the polygon. Continue clicking Undo to delete previously defined points of the polygon. You can continue clicking Undo until all the previously defined points are deleted.				

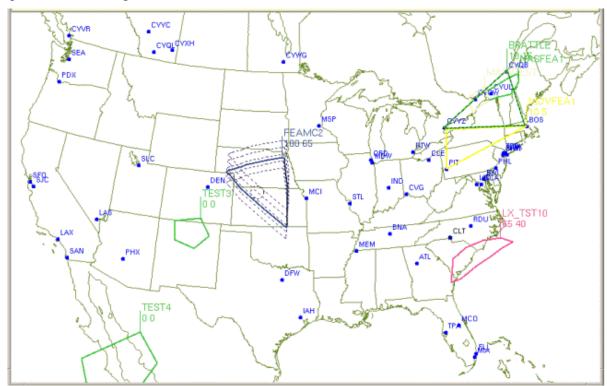
Moving Parameters Fields

The Moving Parameters fields (Heading and Speed) must be filled in on the Create FEA dialog box if you want to create a moving FEA, which is discussed on the following page. The default value for each of these fields is zero, which indicates that a stationary FEA is being created. In the example below, the FEA that is being created is a moving FEA that has a heading of 100 degrees and moves at a speed of 20 knots.



Moving FEAs

When you create or edit an FEA, you may if you wish give it a speed and a direction of movement. For example, the graphic below shows several stationary FEAs and a moving FEA; the dotted outline suggests the movement of the FEA, whose current position is drawn with a solid line. These dotted outlines represent past and future locations of the FEA. The dotted outlines are drawn at the starting location and at the one-quarter, one-half, three-quarter, and ending locations.



Draw an FEA Polygon

To draw an FEA polygon on the display,

- 1. Make sure you have entered a name for the FEA in the Create FEA dialog box.
- 2. In the Create FEA dialog box, unchecked is the usual setting for the Drawn at Start Time Position field. Leave unchecked if you have drawn the FEA at its current position or if you are drawing a stationary FEA. Check if you have drawn the FEA where you project it will be located at the FEA start time.
- 3. Click the **left mouse button** on the map display to begin the polygon.
- 4. Click the **left mouse button** again to establish the next point; a line will be drawn on the display to show the portion of the FEA that you have drawn so far. Continue this process until you have established all the points you want. You do not need to close the polygon; the two end points will be automatically connected to close the polygon.
- 5. Click **OK** to close the dialog box. The polygon will disappear from the display but will be automatically redrawn once it has been entered in the ETMS database; this might take a minute or two

Filters Tab

Clicking on the Filters tab brings up the following dialog box.

Create FEA				
Params	Filters	Shares	B L	.at/Lon
Include •	Departure	ςΓ		
Include •	Arrivals	Ť		
Include •	Traverses	Ė		
Include 🔻	Airways	Ė		
Include 🔻	Locations	Ϊ		
Include 🔽	Aircraft ty	pe [
Include 🔽	Heading			+/-
Include 💌	ACID			
Remarks ✓ NRP ✓ ALTRV ✓ ADCUS			D	ATIII VRSN /XRTE
Flight Level	Lowest	E	lighest	
Aircraft Category	☑ Jet	P rop	V	Turbo
Weight Class	☑ Large N	✓ Heav	y 🔽	Small
User Category	☑ GA 🖪	Z Air T	axi 🔽	Cargo
	☑ Comme	rcial	V	Military
Active / Proposed	ALL	•		
Departure/A No Filter			End	0000
0	K Cance	el l	Help	

This dialog box lets you define filter parameters for the flights that intersect the FEA. The default values are *Include*. The Include buttons are toggles. Clicking on any of them changes the value from Include to Exclude. The following table describes the information needed in the text entry fields. The text entry fields accept multiple entries with a space separating each entry.

Flights Filter Tab		
Include/Exclude	Description	
Departure	Limits the selection to flights that depart from the listed airports or an airport in the listed ARTCC.	
Arrivals	Limits the selection to flights that arrive from the listed airports or an airport in the listed ARTCC.	
Traverses	Limits the selection to flights that traverse the listed sectors, fixes, or ARTCCs. Up to 64 characters.	
Airways	Limits the selection to flights that use any of the listed airways within the FEA. Up to 64 characters.	
Locations	Limits the selection to flights that are currently located in the specified sectors or ARTCCs. Up to 64 characters.	
Aircraft Type	Limits the selection to flights of specific aircraft types. Up to 64 characters.	
Heading	Limits the selection to flights whose heading upon entry into the FEA is equal to the specified heading <u>+</u> the range. The Heading field accepts values from 000 to 359. The Range field accepts values from 000 to 180.	
ACID	Limits the selection to flights with Aircraft IDs that begin with the characters specified by each entry. Accepts up to 64 characters.	
Remarks	Limits the selection to flights with text in field 11 of the flight plan that match any of the selected remarks keywords. See the table on the following page for a list of keywords.	
Highest Flight Level and Lowest Flight Level	Limits the selection to flights whose altitude anywhere within the FEA is predicted to be between the lowest and highest flight levels. The maximum entry for both fields is 600, and the minimum entry for both fields is 000. These levels are expressed in hundreds of feet. One entry in each field only.	
Aircraft Category	Limits the selection to flights that have an aircraft category that matches one of the selected categories. The default is all categories selected, indicating that no filtering is required.	
Weight Class	Limits the selection to flights that have a weight class that matches one of the selected categories. The default is all categories selected, indicating that no filtering is required.	
User Category	Limits the selection to flights that have a user category that matches one of the selected categories. The default is all categories selected, indicating that no filtering is required.	

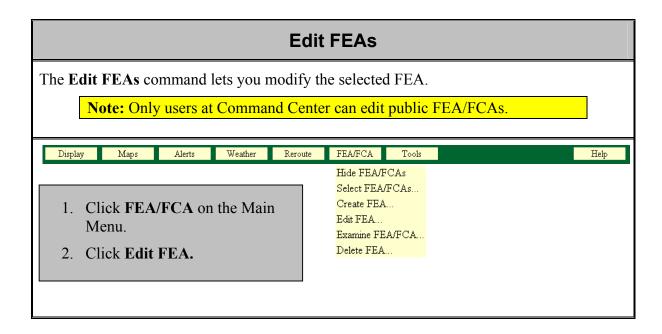
Include/Exclude	Description
Active/Proposed	Limits the selection to flights that are Active or Proposed. Clicking the arrow displays three choices: Active, Proposed, or All. All indicates that no filtering is required. The default is All.
Departure or Arrival Time Range	Limits the selection to flights that depart or arrive within the specified time period. The Option menu provides three choices: Departure, Arrival, No Filter. You can enter start and end time. Time values 0000 to 2359 are accepted. The default is no filter.

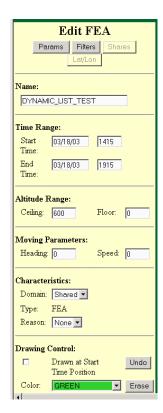
Remarks Keywords

The following table contains the standard keywords for flight remarks data.

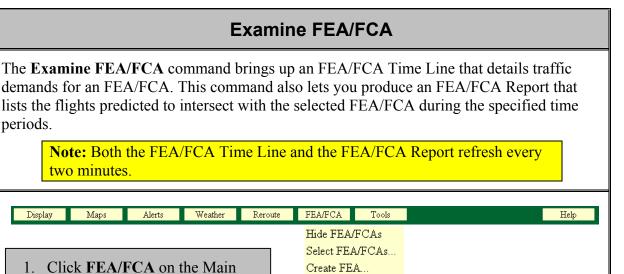
Remarks Keywords		
Boxes you check	Description	
NRP	National Route Program flight.	
LIFEGUARD	Lifeguard or MEDEVAC flight.	
CATIII	Flight has CATIII landing equipment.	
ALTRV	Altitude Reservation. Usually a military request.	
SWAP	Swapping flight from a standard to a nonstandard route. Usually done due to inclement weather.	
DVRSN	Diversion recovery leg.	
ADCUS	Advise Customs about this flight.	
FCA	Flight is rerouted around a Flow Constrained Area.	
WXRTE	Flight has been rerouted due to severe weather.	

FEA/FCA Menu Edit FEA





The Edit FEA dialog box has the same fields and tabs as the Create FEA dialog box. Procedures for entering data is contained in the preceding section, Create FEA.



After you click Examine FEA/FCA, the Examine FEA/FCA dialog box appears. The FCA name is displayed in the pull-down box at the top of the dialog box.

Edit FEA...

Delete FEA...

Examine FEA/FCA...

- 1. Click in the FCA name field and select a name from the pull-down list.
- 2. Click **OK** or **Apply**.

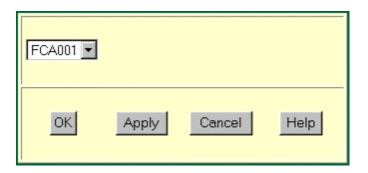
2. Click Examine FEA/FCA.

two minutes.

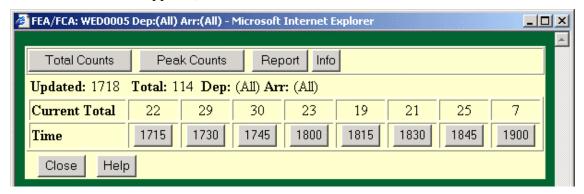
periods.

Display

Menu.



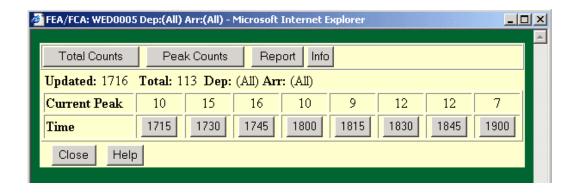
The FCA Time Line appears, similar to the one below.



The numbers on the bottom row indicate the start times of the 15-minute intervals. The label of the top row is Current Total, and the numbers in this row indicate the number of flights that occupy this FEA/FCA for at least one minute during the 15-minute interval.

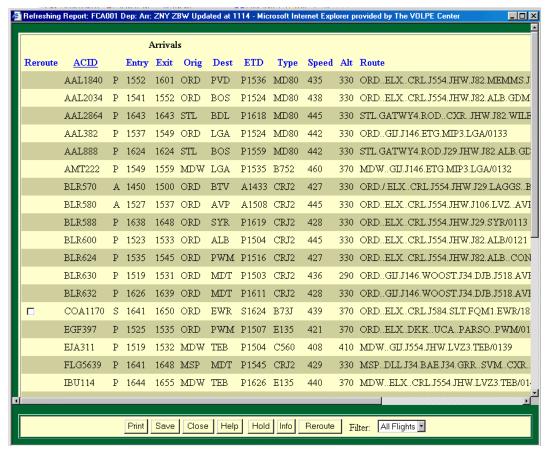
Note: You can scroll to the right or resize the window to view all intervals in the time line.

3. To change the Total Counts to Peak Counts, click the **Peak Counts** button. Your display would look like the following sample.



The label of the top row is changed to Current Peak, and the numbers in this row indicate the maximum number of flights expected to occupy the FEA/FCA during any one-minute interval within the 15-minute interval.

To generate a report, click the **FCA Report** button. The report will look like the following sample.



The column headers in this report are defined as follows:

FEA/FCA Report	
Column Header	Definition
ACID	Aircraft identifier for each flight
Entry	Time the flight will enter the FEA/FCA
Exit	Time the flight will exit the FEA/FCA
Orig	Airport of origin
Dest	Destination airport
ETD	Estimated time of departure, based on best available time from among the other departure time types
Type	Aircraft type. Example: B747
Speed	Air speed filed in a flight plan
Alt	Altitude in hundreds of feet
Route	Route from field 10 of the flight plan, from an early intent message, or from the ETMS database of default routes.

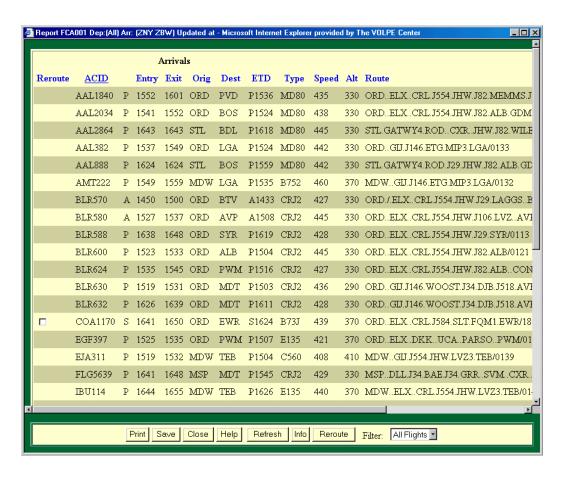
The letters following the ACID indicate the source of the route. P indicates it is from the flight plan, N from an early intent message, and S from the ETMS database of default routes. The rows of the FEA/FCA Report can be sorted on any column by clicking on the column header. Clicking in the header once gives you a forward sort (e.g., A to Z). Clicking it again gives a reverse sort (e.g., Z to A). The default sort is by Entry Time.

FCA Report Buttons

The FCA Report has several buttons located at the bottom of the report. Print, Save, and Close work the same way that they do on all other dialog boxes. Two others, Hold/Refresh and Filter, are described below.

Hold/Refresh

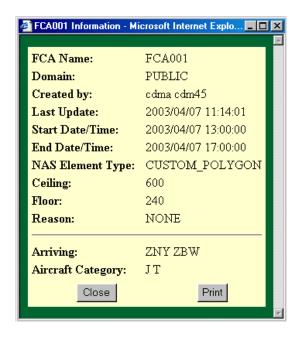
An FEA/FCA Report refreshes every 2 minutes in its default mode. If you want to stop this refreshing so that you can study the report, click the **Hold** button. After you click **Hold**, the button changes to Refresh, as in the following sample.



In the Hold mode, the date and time of the last refresh appear at the top of the FEA/FCA Report. The report will remain in Hold mode until you click **Refresh**, at which time it returns to refreshing every two minutes.

Info (FEA/FCA Information)

Click the **Info button** to display the data that was specified when the FEA/FCA was created.



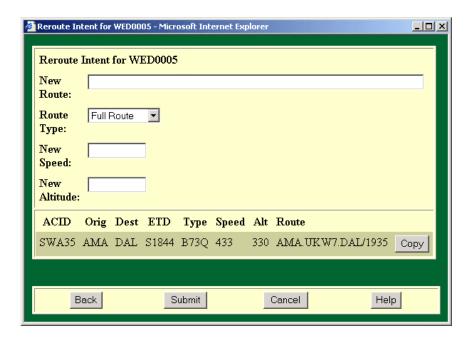
Reroute Function

The Reroute function lets you submit an early route intent for a selected FEA/FCA.

1. Click in a check box corresponding to a flight to edit the route for that flight. Note that not all flights have check boxes. You cannot submit routes for active or filed flights.

Note: More than one flight can be selected if the flights are to be assigned the same route.

2. Click the **Reroute** button. The Reroute Intent for the FEA/FCA dialog box is displayed



3. Enter a new route by typing it in or by clicking the **Copy** button to copy the original route into the New Route field and editing the route.

Note: Routes must be entered in flight plan format; that is, all route elements must be separated by one or two dots.

- 4. Click the **Route Type** button to select **Full** or **Partial** route. A full route must be specified from airport to airport. A partial route must be specified from fix to fix. The CCSD will automatically insert the departure and arrival airports for a partial route. This allows you to assign the same partial route to flights departing or arriving at nearby airports.
- 5. You can also enter a new speed and/or altitude.
- 6. Click **Submit** to enter the new early intent route in the database. A confirmation dialog box appears to inform you that a new route has been sent.

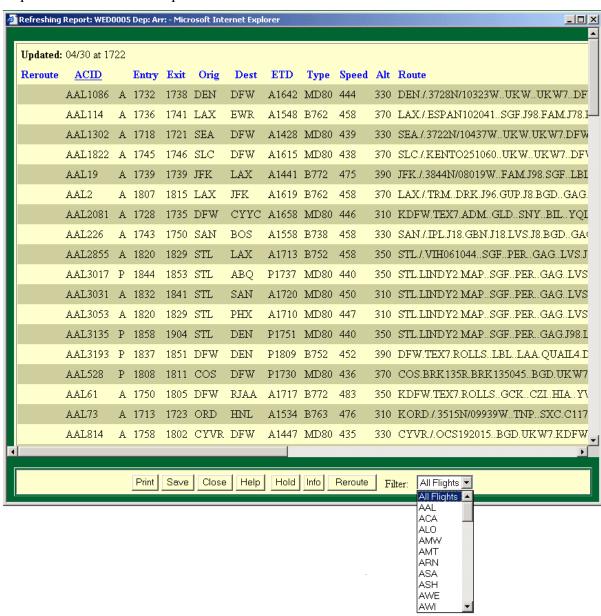


Note: Monitor the FEA/FCA Report to see if the route is accepted by ETMS. If the route is accepted, it should be reflected in the next update of the FEA/FCA Report data.

7. Click **Return to Flight List** to return to the Report window or click **Close Window** to return to the Select FEA/FCA dialog box.

Filter

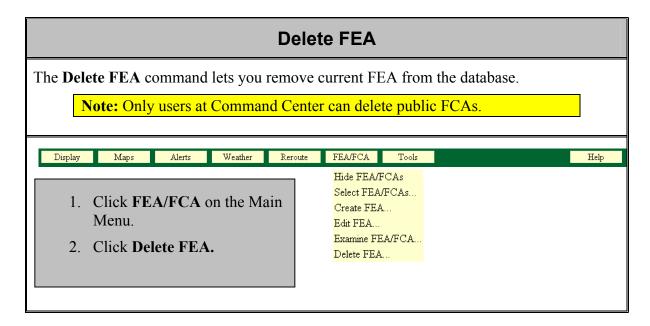
Initially, the FCA Report shows information for all airlines. The Filter button lets you select a specific airline for the report.



The following report sample was filtered by airline AAL.

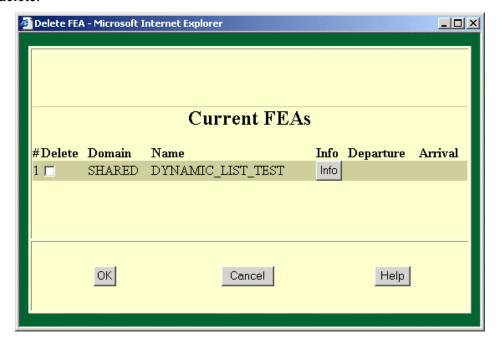


FEA/FCA Menu Delete FEA



To delete an FEA,

Click FEA/FCA on the Main Menu and Delete FEA.
 The Delete FEA dialog box appears. It only lists the FEAs that you are authorized to delete.



- 2. On the Delete FEA dialog box, click the check box for the number of the FEA you want to delete.
- 3. Click OK.
- 4. On the Delete Confirmation dialog box, confirm your delete request by clicking Yes.